(No Model.) 4 Sheets—Sheet 1.

W. J. KEEP.

STOVE.

No. 382,531. Patented May 8, 1888.

Fig. 1.

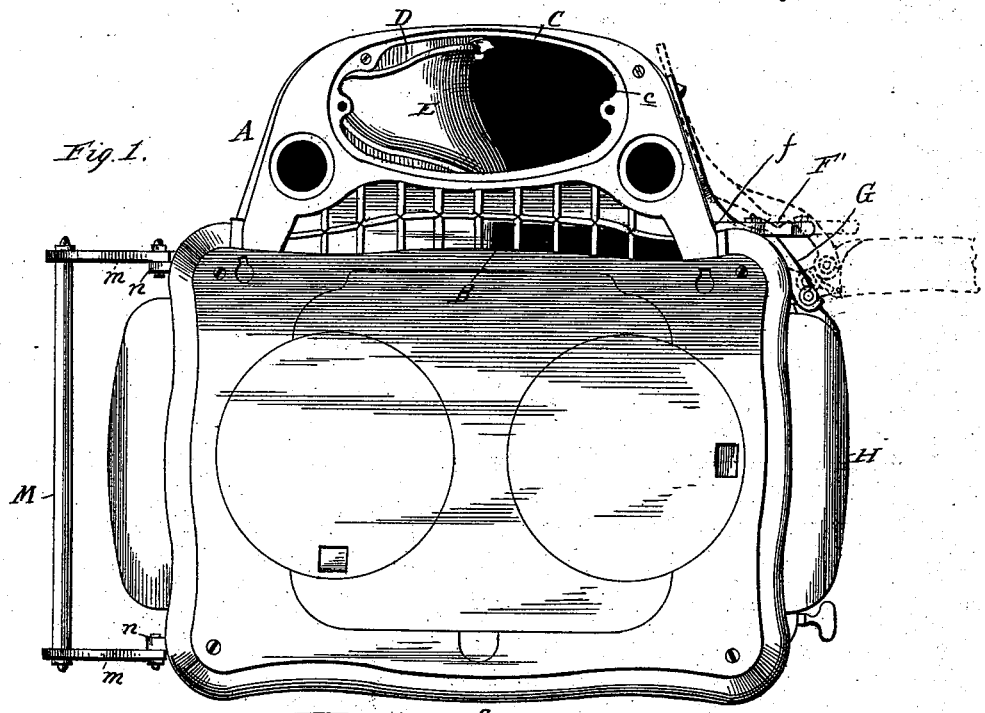
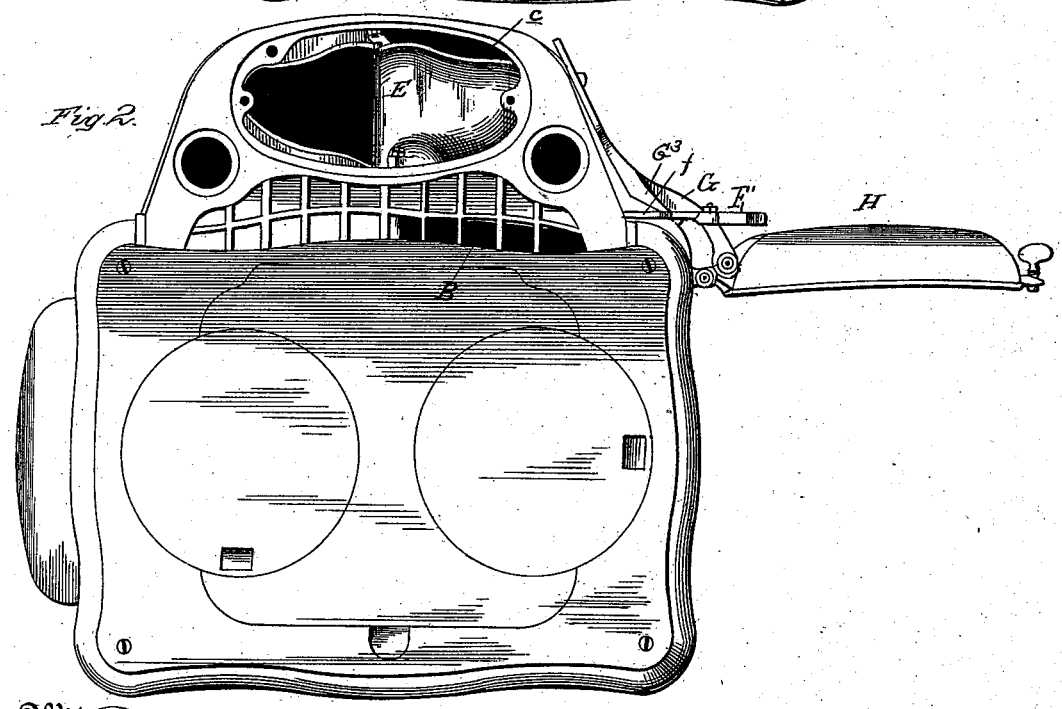


Fig. 2.



Witnesses
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T. E. Robertson.

Inventor,
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By his Attorney
T. J. W. Robertson.

(No Model.) 4 Sheets—Sheet 2.

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Fig. 4.

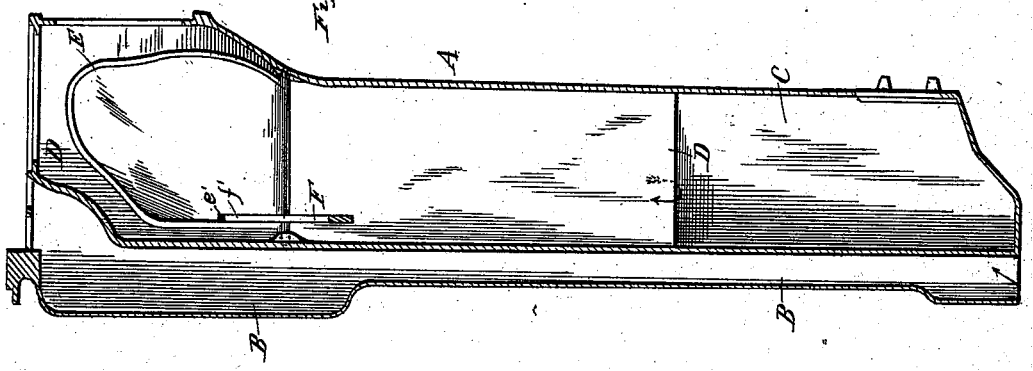
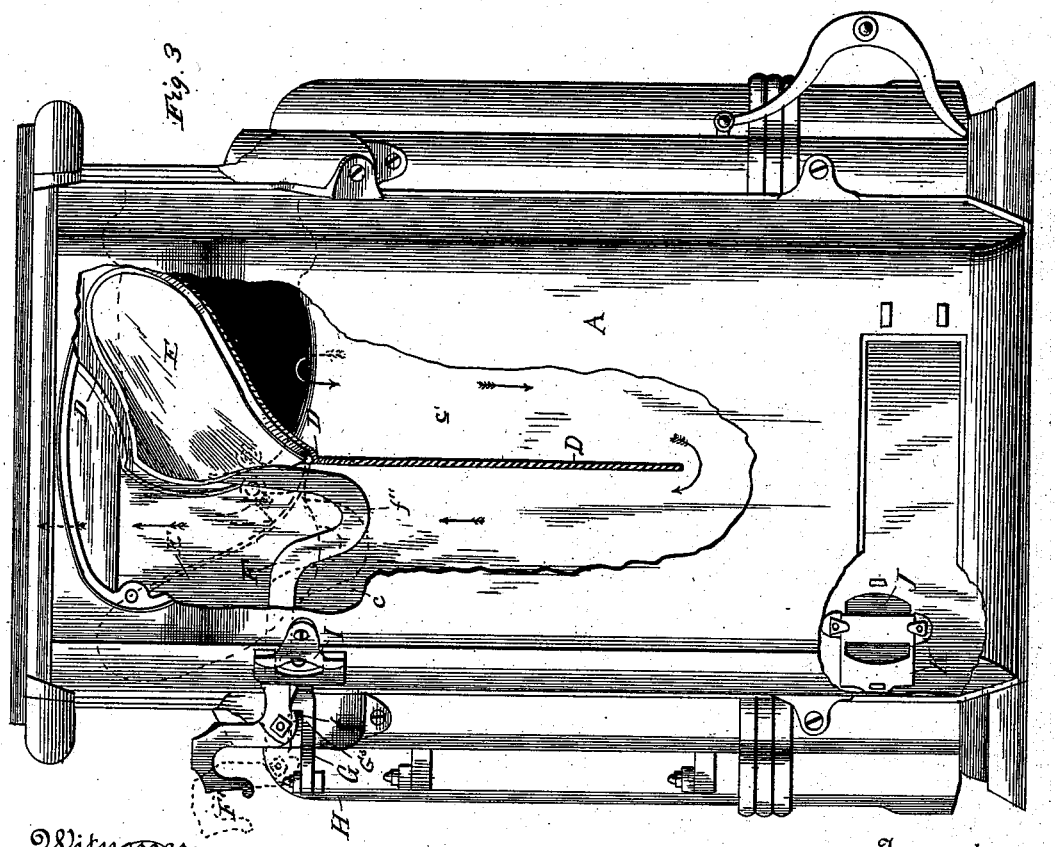


Fig. 5.



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(No Model.) 4 Sheets—Sheet 3.

W. J. KEEP.

STOVE.

No. 382,531. Patented May 8, 1888.

Fig. 5.

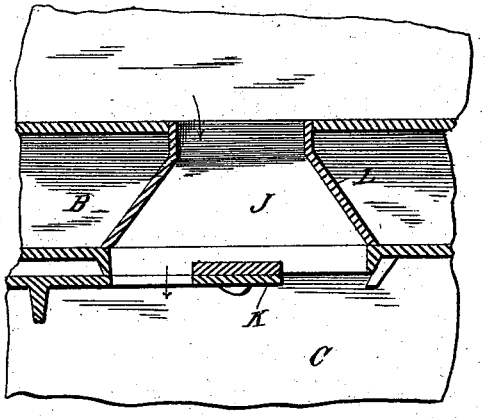


Fig. 6.

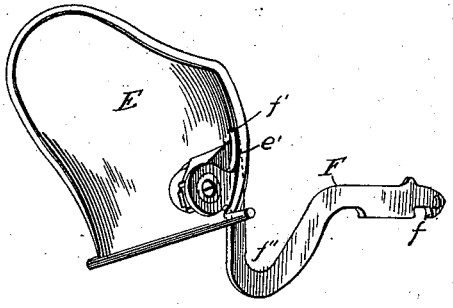
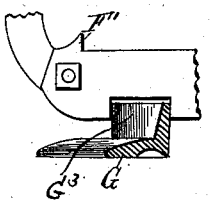


Fig. 7.



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(No Model.) 4 Sheets—Sheet 4.

W. J. KEEP.

STOVE.

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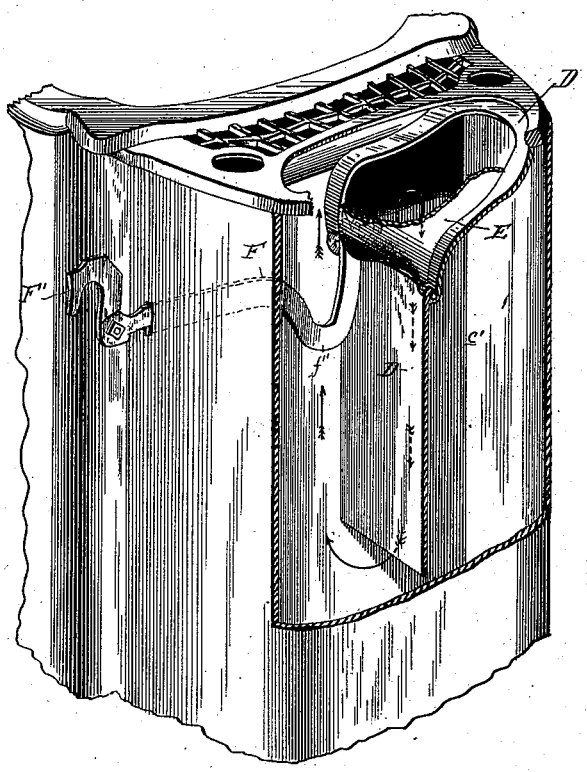
Fig. 8



WITNESSES:

E. H. Kaeder

E. A. Bond.

INVENTOR.

William J Keep.

BY T. J. W. Robertson.

ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM J. KEEP, OF DETROIT, MICHIGAN, ASSIGNOR TO THE MICHIGAN STOVE COMPANY, OF SAME PLACE.

STOVE.

SPECIFICATION forming part of Letters Patent No. 382,531, dated May 8, 1888.

Application filed February 19, 1887. Serial No. 228,239. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. KEEP, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented a certain new and useful Improvement in Stoves, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a plan view of a stove constructed according to my improvement, with parts removed and the door and damper closed. Fig. 2 is also a plan with the door and damper open. Fig. 3 is a back view of the stove, with parts broken away to show the damper in two positions. Fig. 4 is a vertical central section of the flues. Fig. 5 is a detail of a dust-flue leading from the ash-pit to the smoke-flue. Fig. 6 is a perspective detail of the damper and rod. Fig. 7 is a detail, partly in section. Fig. 8 is a perspective view of part of the back of the stove, with parts broken away and other parts removed.

This improvement relates to various details in the construction of heating and cooking stoves, whereby said stoves are rendered more useful and convenient; and the invention consists in the peculiar construction, arrangement, and combination of parts, hereinafter more particularly described and shown, and then more definitely pointed out in the claims.

Referring now to the details of construction, A represents the outer casing of the stove, which may be of any approved form, provided with an air-flue, B, and smoke-flue C, the latter being divided by the damper-strip D into two sections, *c* and *c'*, at the top of which is the damper E, having pivoted thereto the damper-rod F, which is provided with a notch, *f*, that fits over a vibrating lever, G, formed with a cam-surface, G^3, which the walls of said notch engage, and having one end pivoted to the door H, and its other end forked and embraced by a guide, I, secured to the back plate of the stove, the parts being fitted together in such a manner that when the door is opened the lever G, being pivoted thereto, moves with it, and, sliding through the guide I, assumes i shown in dotted lines in Fig. 1 and in full lines in Fig. 2, thus drawing the damper-rod farther out of the stove, so that when the door is opened the damper is opened also, so as to create a direct draft into the chimney, whereby the gas is prevented from coming into the room through the open door. When the door is closed, the lever, by reason of the engagement of its cam-surface with the notch of the damper-rod, again closes the damper, so that the smoke and the products of combustion are compelled to traverse the flues *c c'* before passing into the chimney. It is obvious that the damper can be operated by hand by so raising the rod that the edges of the notch *f* in the rod will clear the lever G.

By making the upper portion of the flue-strip and damper curved, as shown, I am enabled to produce a stove having direct draft and up-and-down flues, which will allow of a hole through which a kettle may be inserted deep in said flues without diminishing to any serious extent the passage to the chimney of the products of combustion.

The damper-rod F is of peculiar shape, to admit of its being connected to the damper above the pivot on which the damper turns, in order that the latter may be readily operated by the movement of the door. To accomplish this it is necessary that a stud, *e*, shall be formed on the side of the damper opposite to that on which the damper-rod is situated. The damper-rod must therefore pass through an opening or slot, *e'*, in the damper E, which is necessarily long, owing to the swinging motion of said damper, and as this opening would allow of a direct passage to the chimney, even when the damper is closed, it is necessary to stop this up, which is done by providing the damper-rod with a projecting lug, *f'*, which is of such shape as to close up the slot *e'* when the damper is closed. The damper-rod is also curved downward and upward, as shown at *f''*, to admit of the damper falling back to open to its full extent.

I prefer to provide the damper-rod with a hooked handle, F', which may be fastened on with a bolt and nut; but any desired style of handle may be used.

Opening from the ash-pit is a dust-flue, J, that communicates with the smoke-flue C, which is covered by the damper K when the latter is closed. As this dust-flue passes through the air-flue, there is necessarily a cas-

ing or boxing, L, between the plates forming the back and front walls of the air-flue. By opening the damper the dust in the ash-pit caused by shaking the grates will be drawn up into the smoke-flues, and thus dust in the room be prevented. The opening of this damper can also be used to check the draft, as a part of the air that enters through the ash-pit doors will pass up into the smoke-flue, instead of passing through the fire.

I make no claim to the peculiar mechanism for operating the damper by a connection with the door, as that will form the subject-matter of a separate application.

Having thus described what I consider the preferable form of my improvement, but without limiting myself to the construction shown, what I claim is—

1. The combination, in a stove and with the stove-pipe opening, the casing, and the fire-pot thereof, of a vertical air-flue, a divided smoke-flue, substantially parallel therewith, both air and smoke flues being between said fire-pot and casing, a direct passage for the products of combustion to the plate having an opening for the stove-pipe, a strip dividing the smoke-flue, and a damper at the upper end of said strip to cut off the products of combustion from the direct passage, substantially as described.

2. The combination, in a stove having an opening for the smoke-pipe, a casing, and a fire-pot, of a vertical air-flue, a divided smoke-flue, substantially parallel therewith, and both air and smoke flues being between said fire-pot and casing, a direct passage for the products of combustion to the opening for the stove-pipe, a strip dividing the smoke-flue, and a curved damper at the upper end of said strip to cut off the products of combustion from the direct passage, substantially as described.

3. The combination, in a stove and with the fire-pot and casing thereof, of a divided smoke-flue, a damper at the upper end thereof, an air-flue of substantially the same width as the stove between the fire-pot and smoke-flue, and opening through the top plates of the stove, substantially as described.

4. The combination, in a stove and with the casing, the fire-pot, the ash-pit beneath the fire-pot, the air-flue behind the same, and the smoke-flue behind the air-flue, of the dust-flue passing through the air-flue and connecting the ash-pit and the space around the fire-pot with the smoke-flue, substantially as described.

5. The combination, in a stove and with the fire-pot, casing, and smoke-flue thereof, of a vertical air-flue running from the top to the bottom of the stove between the fire-pot and smoke-flue, and having an opening through it, mostly on one side of the stove, to allow of the passage of the products of combustion from the fire pot to the smoke-flue, substantially as described.

6. The combination, in a stove having an ash-pit and air and smoke flues, of two plates forming the walls of the air-flue, and a box held between said plates and forming a dust and check flue, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 17th day of February, 1887.

WILLIAM J. KEEP.

Witnesses:
C. A. DU CHARME,
JOHN M. DWYER.